

What is claimed is:

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~~CLAIMS~~

1. A needle arrangement for an injection device (16),
having a hollow needle carrier (10) on which a hollow needle (12) is
mounted and which is configured for mounting on an injection device (16);
having a first cap (32) which is arranged on the hollow needle carrier
(10) and displaceably approximately parallel to the longitudinal extension
of the hollow needle (12) between a distal and a proximal end position, is
equipped at its proximal end segment with a passthrough opening (42) for
the hollow needle (12), and in its proximal end position substantially
conceals the hollow needle (12);
having a compression spring (26), arranged between the hollow needle
carrier (10) and the first cap (32), for displacing the first cap (32) into
its proximal end position; and
having a stop (58, 60, 58', 60'), provided on the outer side (36) of
the hollow needle carrier (10) for the distal end position of the first cap
(32), which coacts with a distal end segment (53) of the first cap (32) and
determines the penetration depth (D) of the hollow needle (12).
2. The needle arrangement as defined in Claim 1, in which the stop (56, 58,
60, 56', 58', 60') is modifiable.
3. The needle arrangement as defined in Claim 1 or 2, in which at least two
stop elements (58, 60, 58', 60'), each joined to the hollow needle carrier
(10) by a defined break point (76), are provided on the outer side (36) of
the hollow needle carrier (10).
4. The needle arrangement as defined in Claim 3, in which the defined break
point (76) serves, after it breaks, as axial guide for the displacement of
the first cap (32) relative to the hollow needle carrier (10).
5. The needle arrangement as defined in one or more of the foregoing

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claims, in which the first cap (32) is arranged displaceably on a substantially cylindrical circumferential surface (36) of the hollow needle carrier (10); and

a rotation preventer (44, 45) is provided which at least almost prevents any rotation between the hollow needle carrier (10) and the first cap (32).

6. The needle arrangement as defined in Claim 5, in which the rotation preventer (44, 45) has at least one longitudinal groove (44) which is provided on the first cap (32) or hollow needle carrier (10), and a complementary projection (45) engaging thereinto which is provided on the corresponding mating part, i.e. the hollow needle carrier or first cap.
7. The needle arrangement as defined in one or more of Claims 1 through 6, in which the spring is configured as a plastic spring (26).
8. The needle arrangement as defined in Claim 7, in which the plastic spring (26) is configured integrally with the hollow needle carrier (10).
9. The needle arrangement as defined in Claim 7 or 8, in which the plastic spring (26) is equipped at its proximal end with a ring (28) which is in contact against the first cap (32) and acts upon it in the proximal direction.
10. The needle arrangement as defined in Claim 9, in which the ring (28) is configured integrally with the plastic spring (26).
11. The needle arrangement as defined in one or more of the foregoing claims, in which a covering cap (66) is provided which substantially surrounds the outer circumference (35) of the first cap (32).
12. The needle arrangement as defined in Claim 11, in which the covering cap (66) extends over the hollow needle carrier (10); and rotation prevention is provided between it and the hollow needle

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carrier (10).

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13. The needle arrangement as defined in Claim 12, in which the rotation preventer (60, 70) has a longitudinal groove (70) which is provided on the covering cap (66) or the hollow needle carrier (10), and a complementary projection (60) engaging thereinto which is provided on the corresponding mating part, i.e. on the hollow needle carrier or covering cap.

14. The needle arrangement as defined in one or more of Claims 11 through 13, in which the covering cap (66) is sealed in sterile fashion on its open side by a tear-off sealing member (71).

15. The needle arrangement as defined in one or more of Claims 11 through 14, in which the covering cap (66) is configured so as to influence at least one stop member (58, 60, 58', 60') of the stop provided on the outer side of the hollow needle carrier (10) in order to adjust the penetration depth (D).

16. The needle arrangement as defined in Claim 15, in which the at least one stop member (58, 60) of the stop provided on the outer side of the hollow needle carrier (10) is mounted on the hollow needle carrier (10) via a defined break point (76) which can be broken off by way of a rotary motion (74) of the covering cap (66, 66') brought into engagement with said stop member.

17. The needle arrangement as defined in one or more of the foregoing claims, in which an inner thread (20) is provided on the hollow needle carrier (10) for detachable mounting on an outer thread (18) of an associated injection device (16).

18. A needle arrangement for an injection device (16), having a hollow needle carrier (10) on which a hollow needle (12) is mounted and which is configured for mounting on an injection device (16); having a first cap (32) arranged on the hollow needle carrier (10)

displaceably approximately parallel to the longitudinal extension of the hollow needle (12),

which is equipped at its proximal end segment with a passthrough opening (42) for the hollow needle (12), and

in its proximal end position substantially conceals said hollow needle (12); and

having a compression spring, arranged between the hollow needle carrier (10) and first cap (32), which is configured as a plastic spring (26) and is configured integrally with the hollow needle carrier (10).

19. The needle arrangement as defined in Claim 18, in which the plastic spring (26) is equipped, at its end region facing away from the hollow needle carrier (10), with a ring (28) that acts upon the first cap (32) in the direction away from the hollow needle carrier (10).

20. The needle arrangement as defined in Claim 19, in which the ring (28) is configured integrally with the plastic spring (26).

21. The needle arrangement as defined in one or more of Claims 18 through 20, in which the plastic spring (26) has two helical spring elements (26a, 26b), each of which is configured integrally with the hollow needle carrier (10).

22. The needle arrangement as defined in one or more of Claims 18 through 21, in which the plastic spring (26) is arranged substantially concentrically with the hollow needle (12).

23. The needle arrangement as defined in one or more of Claims 18 through 22, in which the first cap (32) is arranged displaceably on a substantially cylindrical circumferential surface (36) of the hollow needle carrier (10), and a rotation preventer (44, 45) is provided between the hollow needle carrier (10) and the first cap (32).

24. The needle arrangement as defined in Claim 23, in which the rotation preventer (44, 45) has at least one longitudinal groove (44) that is provided on the first cap (32) or hollow needle carrier (10), and a complementary projection (45) engaging therewith which is provided on the corresponding mating part, i.e. hollow needle carrier or first cap.

25. The needle arrangement as defined in one or more of Claims 18 through 24, in which a covering cap (66) is provided that can be slid onto the first cap (32) and thereby substantially surrounds its outer circumference (35).

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26. The needle arrangement as defined in Claim 25, in which the covering cap (66) extends over the hollow needle carrier (10), and a rotation preventer is provided between it and the hollow needle carrier (10).

27. The needle arrangement as defined in Claim 26, in which the rotation preventer (60, 70) has a longitudinal groove (70) which is provided on the covering cap (66) or on the hollow needle carrier (10), and a complementary projection (60) engaging thereinto which is provided on the corresponding mating part, i.e. on the hollow needle carrier or covering cap.

28. The needle arrangement as defined in one or more of Claims 25 through 27, in which the covering cap (66) is sealed in sterile fashion on its open side by a tear-off sealing member (71).

29. The needle arrangement as defined in one or more of Claims 18 through 28, in which an internal thread (20) is provided on the hollow needle carrier (10) for mounting on an external thread (18) of an associated injection device (16).

30. A needle arrangement for an injection device (16), having a hollow needle carrier (10) on which a hollow needle (12) is mounted and which is configured for mounting on the injection device (16); having a cap (32) which is arranged on the hollow needle carrier (10) displaceably approximately parallel to the longitudinal extension

of the hollow needle (12), has at its proximal end segment a passthrough opening (42) for the hollow needle (12), and in its proximal end position substantially conceals the hollow needle (12);

having a compression spring (26), arranged between the hollow needle carrier (10) and displaceable cap (32), for displacing the cap (32) into said proximal end position; and

having a covering cap (66) which surrounds the displaceable cap (32), the hollow needle, and the hollow needle carrier (10), and on its open side is sealed by a sealing member (71) that is removable by the user.

31. The needle arrangement as defined in Claim 30, in which the covering cap (66) is configured to influence at least one stop member (58, 60, 58', 60') for adjustment of the penetration depth (D).

32. The needle arrangement as defined in Claim 31, in which the at least one stop member (58, 60) is mounted on the hollow needle carrier (10) via a defined break point (76) which can be broken off by way of a rotary motion (74) of the covering cap (66, 66') brought into engagement with said stop member.

33. The needle arrangement as defined in one or more of Claims 30 through 32, in which the sealing member removable by the user is configured as a peelable film (71).